

**ERIGERON PATTERSONII (ASTERACEAE: ASTEREA), A NEW SPECIES
FROM NUEVO LEON, MEXICO**

Guy L. Nesom

Department of Botany, University of Texas, Austin, Texas 78713 U.S.A.

ABSTRACT

A recent collection of *Erigeron* from a gypseous area of central Nuevo León, México, is described as *E. pattersonii* *sp. nov.* It is a narrow endemic closely similar to two other species also restricted to north-eastern México, *E. chiangii* and *E. scoparioides*. These three species are formally placed in *Erigeron* sect. *Lamprocaules* sect. *nov.*

KEY WORDS: *Erigeron*, Asteraceae, Astereae, gypsum, México

Recent collections from gypsum deposits in central Nuevo León, México, have brought to light a distinctive population of *Erigeron* that is described here as a new species.

Erigeron pattersonii Nesom, *sp. nov.* TYPE: MEXICO. Nuevo León, Mpio. Rayones, Sierra Madre Oriental, gypseous slope just E of road leading from Rayones to Galeana, 7.3 mi from jct on S side of Rayones toward Galeana, 24°55'45" N, 100°05'45" W; Tamaulipan scrub - lechuguilla - opuntia - barrel cactus association, 1500 m, 9 April 1994, T.F. Patterson 7479a (HOLOTYPE: MEXU; Isotypes: ANSM, GH, NY, TEX).

Erigeronti scoparioidi Nesom similis caulibus ac foliis paginis nitidis, foliis basalibus carentibus, foliis caulinis lineari-filiformibus stricte ascendenti-erectis apice falcatis-apiculato, gemmis erectis, et capitulis parvis sed differt basi lignea non-rhizomata, caulibus ac foliis paene glabris, capitulis minoribus, phyllariis zona centrali crassi-resinacea, corollis disci induratis, acheniis minoribus, et pappo redactoribus.

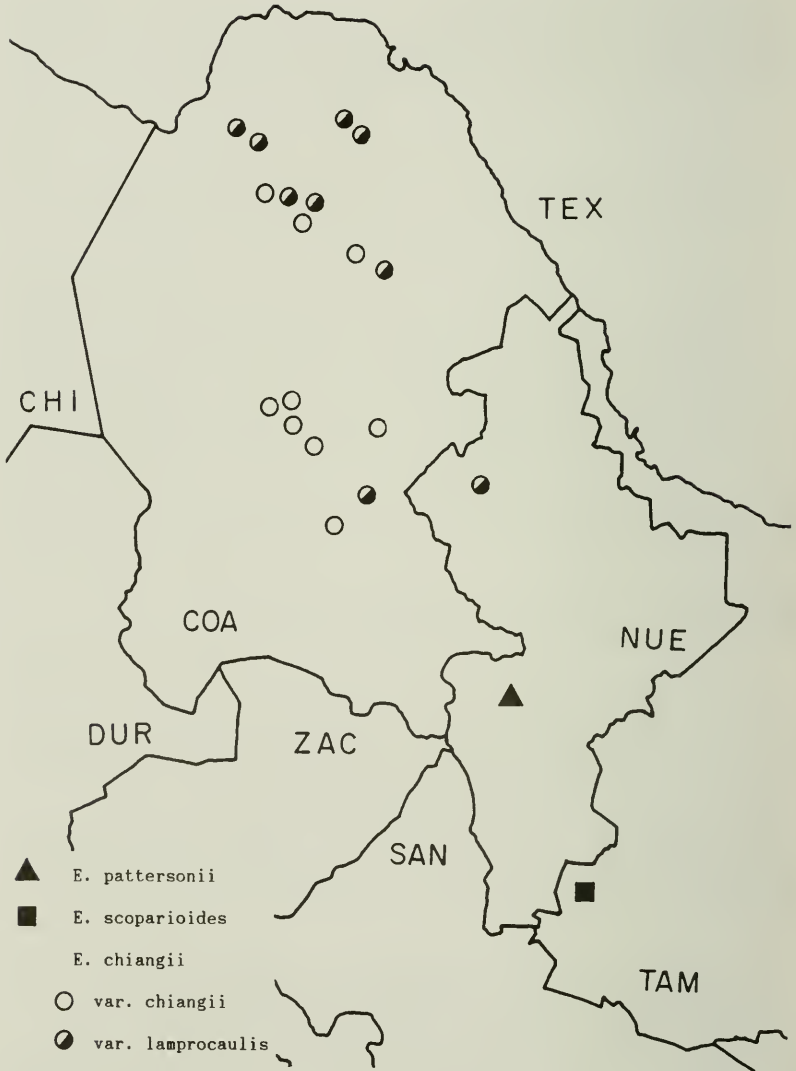
Herbaceous perennials, leaves and stems with a shiny texture, eglandular and otherwise completely glabrous or with only a few Type A trichomes (Nesom 1976) at the base of the involucre and on the lower leaves. Stems strictly erect, wiry, 0.8-1.0 mm wide, ca. 10-20 densely arising from a woody base, 25-35 cm tall, simple or with 1-2 branches in the upper 1/4-1/3. Basal leaves absent, the lower cauline sometimes narrowly oblanceolate, up to 3 cm long, the widest part of the blade 2-5 mm wide; middle and upper cauline leaves linear-filiform, sessile, strictly ascending-erect, 10-20 mm long, 0.5-1.0 mm wide, with a falcate-apiculate apex. Heads 4-6 mm wide, on peduncles 1-3 cm long; buds erect; phyllaries lanceolate, in 3-4 series graduated in length, the inner 2.5-3.0 mm long, the outer ca. 1/2-1/3 as long, midvein not evident but the distal 2/3 with a narrowly oblanceolate, greenish-yellow, thickened and raised zone with prominently quadrate cells, with very narrow, whitish-scarious marginal zones. Pistillate flowers fertile, 28-38 in a single series, the corollas 3.5-4.5 mm long, including the tube ca. 1 mm long, the ligules 0.4-0.6 mm wide, white or pinkish tinged, without a midstripe, not coiling or reflexing. Disc corollas narrowly tubular, 1.5-2.0 mm long, the tube green, 0.3-0.4 mm long, abruptly but slightly expanded into an indurate portion, the lobes triangular-deltate, erect; style branches 0.3 mm long, with shallowly triangular collecting appendages. Achenes obovate-oblong, 0.8-0.9 mm long, sparsely strigose, 2-nerved; pappus of 11-15 fragile, barbellate bristles, with an extremely short outer series of minute scales or setae.

Known only from the type collection.

The new species is named for its collector, Tom Patterson, currently a graduate student in systematic botany at the University of Texas. Tom has a long-standing and continuing interest in the botany of northern México and has made substantial contributions to our knowledge of that flora through his studies, publications, and numerous collections.

Plants of *Erigeron pattersonii* are briefly characterized as follows: perennials with numerous, wiry-thin stems arising from a woody, non-rhizomatous base, the stems usually few-branched near the apex; stems and leaves with shiny surfaces, eglandular and almost completely glabrous; basal leaves absent, the cauline linear, strictly ascending-erect, with a falcate-apiculate apex, the lower cauline sometimes oblanceolate and spreading; buds erect; heads particularly small, producing short, non-coiling ligules; and phyllaries glabrous, strongly graduated in length, with a thick-resinous central area.

A form of *Erigeron modestus* A. Gray also occurs in the same area of gypsum (*Patterson 7473b*). These plants differ from *E. pattersonii* in strigose stems, leaves, and phyllaries, persistent basal leaves with a long, distinct petiole and oblanceolate blade, nodding buds, phyllaries with a narrow, orange-resinous midvein, and more than 100 ray flowers per head, the ligules 5-6 mm long, with a purple, abaxial midstripe. *Erigeron modestus* is related to a much larger group of species (sect. *Olygotrichium* Nutt., including, for exam-



Map 1. Distribution of the taxa of *Erigeron* sect. *Lamprocaules*.

ple, *E. divergens* Torr. & Gray, *E. flagellaris* A. Gray, *E. calcicola* Greenm., *E. pubescens* Kunth) common in northern México (Nesom 1989b).

Erigeron pattersonii is most similar to two other species restricted to north-eastern México (Map 1): *E. chiangii* Nesom and *E. scoparioides* Nesom (Nesom 1979, 1989a, 1992b). All three produce glabrous to glabrate stems and leaves (commonly glandular in *E. chiangii*) with shiny surfaces, linear leaves, erect buds, small heads with strongly and evenly graduated phyllaries and few, non-coiling ligules. The falcate-apiculate leaf apices of *E. pattersonii* and *E. scoparioides* are remarkably similar.

In contrast, *Erigeron chiangii* and *E. scoparioides* have a rhizomatous root system without a central axis (vs. woody, non-rhizomatous base in *E. pattersonii*) and both occur in areas of limestone (vs. gypsum); heads are 6-12 mm wide in *E. chiangii*, 6-7 mm wide in *E. scoparioides* (vs. 4-6 mm); disc corollas are 2.6-4.0 mm high (vs. 1.5-2.0 mm); achenes are 1.3-1.8 mm long in *E. chiangii*, ca. 1 mm long in *E. scoparioides* (vs. 0.8-0.9 mm); and the pappus is of 16-22 bristles (vs. 11-15 bristles). *Erigeron chiangii* (var. *chiangii*) produces basal leaves that are sometimes persistent and it is similar to *E. pattersonii* in its tendency to produce somewhat oblanceolate lower cauline leaves, but *E. chiangii* has glandular involucre and the stems are glandular at least near the heads. *Erigeron scoparioides* lacks differentiated basal leaves, the stems are sparsely strigose, and the stems and involucre are eglandular.

Earlier, I suggested that this group of species with shiny, wiry stems and linear-filiform cauline leaves might be closely related to sect. *Linearifolii* (G. Don) Nesom (Nesom 1979, 1992a) or to sect. *Karvinskia* Nesom (Nesom 1989a), as all of these taxa are similar in their numerous stems from the base, lack of strongly differentiated basal leaves, erect buds, and sparsely pubescent stems and leaves. *Erigeron* sect. *Linearifolii* is essentially restricted to California and immediately adjacent areas, and these Californian taxa do not produce wiry stems or linear-filiform cauline leaves similar to those of the "shiny-stemmed species group." The center of diversity of sect. *Karvinskia* is primarily in Central America (Nesom in prep.), where they occur in considerably moister and warmer habitats, the surface texture of the stems and leaves of these plants is not at all indurate-shiny, they typically produce relatively large, oblanceolate leaves with toothed margins, and their phyllaries are subequal.

The three shiny-stemmed species of northeastern México are morphologically coherent but the nature of their relationship to other species within the genus is not clear. They are here formally recognized as a separate section.

Erigeron sect. **Lamprocaules** Nesom, sect. nov. Type species: *Erigeron scoparioides* Nesom; also including *Erigeron chiangii* Nesom and *E. pattersonii* Nesom.

Caules ac folia glabra paginis nitidis; caules tenues; folia caulina lineari-filiformi longitudine paene aequa, basali plerumque carenti; gemmae erectae; capitula parva (4-6 mm lata) phyllariis valde aequaliterque graduatis et ligulis non-circinnatis.

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